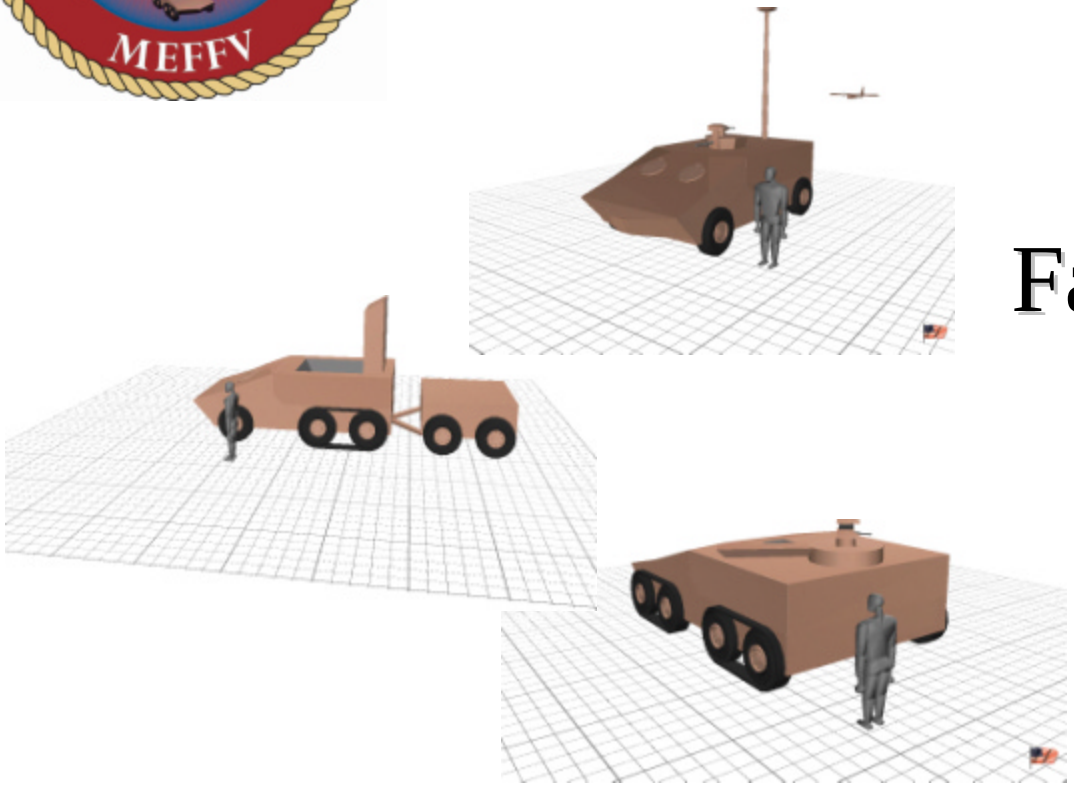
MAGTF Expeditionary Family of Fighting Vehicles (MEFFV)



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Project Description

MEFFV addresses the shortfalls of the M1A1 Common Main Battle Tank (MBT) and the Light Armored Vehicle (LAV) Family of Vehicles (FOV) that will render them unsuitable on the future battlefield. It is a leap ahead technology approach to combat vehicle development that will replace the LAV and the M1A1, which reach the end of their service lives starting in 2015 and 2020 respectively. MEFFV is not intended to be a one for one replacement. It is expected to be a Family of Vehicles that will provide the capabilities necessary to win on future battlefields.

Study Background/History

- M1A1 Modification Plan - 2020
- Long Range Amphibious Planning Group
- OMFTS Working Group Direction
  - –Identify Future Offensive Combat Vehicle needs
- MAGTF Future Force Structure Requirement
- Direction from USMC P&R, PP&O, and CG MCWL
  - –Study initiated in 1998
  - –Culminated in future combat vehicle vision

MEFFV

Replacement for M1A1/LAV

- Family of Vehicles
  - Modular
    - System
    - Component
- Expeditionary: 10T-30T?
  - Deployable, employable, survivable and sustainable
- Extends Operational Reach
- Extends Force Protection throughout Littoral Battlespace
- Recognizes potential for force structure savings in LAR , TK BNs & other CBT Support BNs
- Significantly reduce logistics footprint
  - Fuel, ammo, and repairables
- Multi-mission capable across the Spectrum of Conflict

MAGTF Expeditionary Family of Fighting Vehicles

M1A1 - 2020

LAV - 2015

Vision: 2015 - ?
EMW - FFS
Offensive Combat Vehicle Requirement

"OMFTS and STOM-configured forces must be able to rapidly reorganize and reorient in response to changing tactical opportunities—while dispersed both at sea and ashore over much greater distances—along the full spectrum of future operational environments."
--The Revolution in Military Affairs and Joint Vision 2010, Chapter 13

TRANSFORMATION → MEFFV

MEFFV Approach to Leap-Ahead Technology

Assault Variant

Reconnaissance Variant

Potential Fire Support Variant

(Post HIMARS/LW155)

Needs

- Reduced Gross Weight Increased Survivability
- Fuel Conservation or Elimination
- Autonomous Defensive Systems
- Regenerative Weapons
- Multi-Spectrum Tactical Awareness

Technology Focus

- Vehicle Integrated Defense and Survivability Suite
- Sensor Data Fusion
- Advanced Weapons
- Advanced Composites Survivable / Lightweight
- Advanced Propulsion

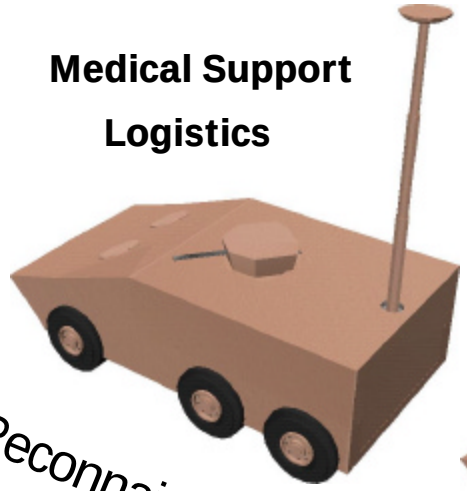
Variant Approach

Air Defense

Assault

Medical Support

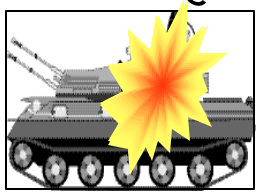
Logistics



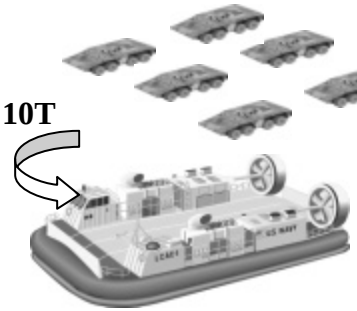
Reconnaissance

Modularity Plug-N-Play = Ability to Task Organize Vehicle Configurations

Potential Future Fire Support Vehicle



10T

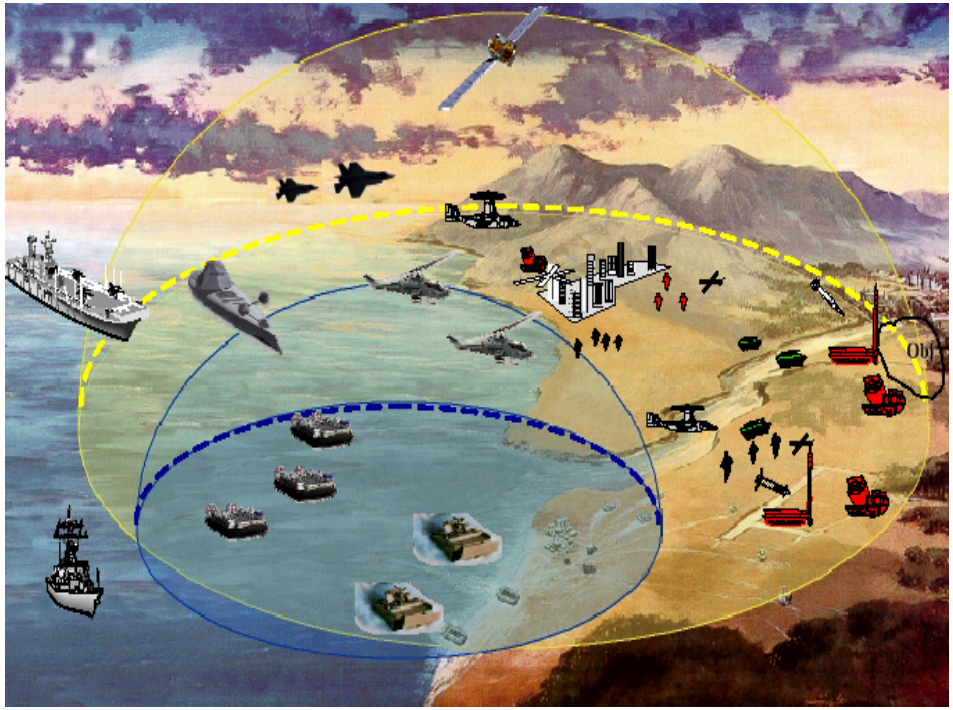


20/30T

MEFFV Defined Parameters

- Size: Height = 68”?
- Wt.: LPD 17, 18, 19
  LCAC/LCU
3. Cube: (3 ship ARG)
4. Fielding Date: Mature Technology by 2018
- Cost: 19.6 – 21.7 in FY 20 (= 5.8 in FY99)
  Tank/Assault Variant

Objective Force vs. EMW



MEFFV/FCS Requirements Comparison

Future Combat Systems

Maximum 18-20 tons
Net Fires = High Survivability
Network Centric (Large UAV force)
Large Robotic/Autonomous Force (Unmanned)
New Conceptual Way to Fight
Army Expeditionary:
C-130, C-17, C-5
FUE: 2008-2012
IOC: 2010

Commonalities in Leap-Ahead Technology:

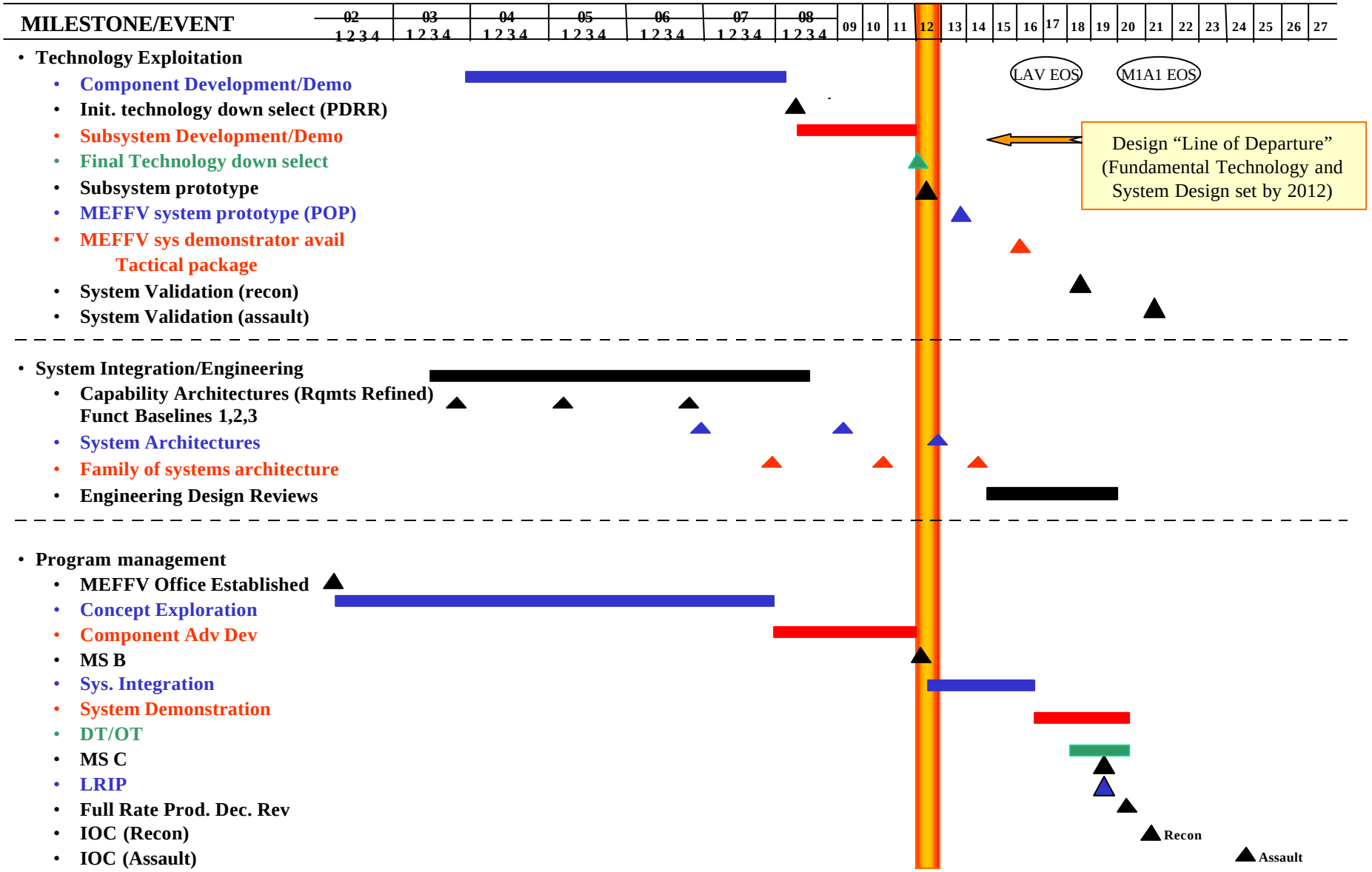
Power Trains
Weapon Systems
Survivability
Sensors
System Integration

MEFFV

Family of Vehicles 10-30 tons
Modular, Plug-n-Play
Swim Capable (Riverine)
Transport Advantage, Direct and Indirect Fires, Survivable and Sustainable
USMC Expeditionary:
LCU, LCAC, CH-53, MV-22
IOC: 2019-2023

From The Sea - STOM

Master Plan



• **EFDS (MCCDC)** < **Force Capability Dev** > < **Prioritization** > < **Requirements Dev** > < **Capability Fielding** >

Technology Coordination/Management Process

Not an ONR Science Project

MCWL

TARDEC

National Labs

ONR

DARPA

Industry

Technology Cutoff 2012

Leadership/Management = Key to Success

Combat Vehicle Development Program → (AAAV)

Leverage existing technology programs to incorporate MEFFV requirements (“BUY IN” w/ FCS and agencies above)

Status

- MNS Approved by ACMC – 20 Dec 2000
- MNS Approved by JROC – 1 Nov 2001
- ACMC Committee Concurred With Initiative – Oct 2001
- POM04 Initiative Submitted to MARCORSYSCOM – 24 Jan 2002
- GCE Advocacy – Listed as Essential (No. 12) on PP&O's Advocates Requirements List – Sep 2001 (total of 42 ARL initiatives)
- Technology Coordination Office Established
  MCSC 8 personnel – Mar 01
- Technical CONOPS – Jun 2000
- Acquisition Strategy & Program Plan – Developed
- Funding Plan & Execution Plan – Developed

Status Cont'd

- LNO/PO w/Army FCS, TARDEC, DARPA – In Progress
- Monitor Existing FCS/TARDEC Initiatives Applicable to MEFFV– In Progress
- ORD – In Progress
- Briefed OSD Senior Leadership, USMC Senior Leadership and Operational Commanders, Army Senior Leadership

Questions?